

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 7090641

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APPLICATION NO.: 10/718,333

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INVENTOR(S) : BIAGI et al.

It is certified that an error appears or errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

The Assignee be changed to:

Actis Active Sensors S.r.l. and Esaote S.p.A.

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Biagi et al.

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(54) **ULTRASOUND IMAGE FOCUSING METHOD
AND RELATIVE ULTRASOUND SYSTEM**

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(52) **U.S. Cl.** **600/443**

(58) **Field of Classification Search** 600/437, 600/442, 443, 447; 73/1.82, 602; 367/46, 367/119

See application file for complete search history.

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(57) **ABSTRACT**

The method comprises the phases of: sending a series of excitation ultrasonic signals to a volume being investigated, by means of an array of transducers aligned in a transverse direction (x), said ultrasonic signals propagating in depth in said volume according to a direction of propagation (y); acquiring, by means of said transducers, signals reflected from reflectors located in the volume being investigated; performing on said reflected signals a transform in the transverse direction from a spatial domain (x,y), defined by said transverse direction (x) and by said direction of propagation (y), to a first transformed domain; applying, in the transformed domain, a two-dimensional transformation, to straighten every curved image (Ip1, Ip2, Ip3) of a reflector in said volume being investigated and make it essentially orthogonal to the direction of propagation (y); compressing, in the transverse direction (x) each of the straightened curves (Im1, Im2, Im3) to concentrate said straightened image in a zone centered at the level of the position of said reflector along said transverse direction (x).

20 Claims, 24 Drawing Sheets

